

What is claimed is:

1 1. A power source circuit for a cell for controlling transfer
2 of electric energy from said cell to loads, wherein a device
3 employing said power source circuit is operated in a manner that,
4 when a discharge voltage of said cell becomes lower than an
5 operation lower limit voltage of said device to be operated, a
6 voltage output from said power source circuit for said cell is
7 made higher than said operation lower limit voltage of said device
8 by using a voltage increasing unit.

1 2. The power source circuit for a cell according to Claim 1,
2 wherein an amount of voltage drop in said cell per unit time is
3 employed as a factor for detecting termination of discharge of
4 said cell.

1 3. A power source circuit for a cell for controlling transfer
2 of electric energy from said cell to loads, said power source
3 circuit comprising a cell voltage detecting circuit to detect a
4 voltage of said cell, a discharge controlling circuit, an output
5 voltage detecting circuit, a step-up DC-DC converter, a switching
6 circuit to switch a positive electrode of said cell to either of
7 an output terminal of said power source circuit or an inputting
8 section of said step-up DC-DC converter, and a power storing
9 section mounted in an outputting section of said power source
10 circuit,

11 wherein said device employing said power source cell is
12 operated in a manner that, when a discharge voltage of said cell
13 becomes lower than an operation lower limit voltage of said device

14 to be operated, a voltage output from said power source circuit
15 for said cell is made higher than said operation lower limit
16 voltage of said device by using said step-up DC-DC converter.

1 4. The power source circuit for a cell according to Claim 3,
2 wherein an amount of voltage drop in said cell per unit time is
3 employed as a factor for detecting termination of discharge of
4 said cell.

1 5. The power source circuit for a cell according to Claim 3,
2 wherein said power storing section comprises an electric double
3 layer capacitor.

1 6. A power source circuit for a cell for controlling transfer
2 of electric energy from said cell to loads, said power source
3 circuit comprising a cell voltage detecting circuit to detect a
4 voltage of said cell, a control circuit, an output voltage
5 detecting circuit, a step-up DC-DC converter, an inductor, two
6 or more switching circuits, a power storing section mounted in
7 said outputting section, wherein said device employing said power
8 source cell is operated in a manner that, when a discharge voltage
9 of said cell becomes lower than an operation lower limit voltage
10 of said device to be operated, a voltage output from said power
11 source circuit for said cell is made higher than said operation
12 lower limit voltage of said device by using said step-up DC-DC
13 converter.

1 7. The power source circuit for a cell according to Claim 6,
2 wherein an amount of voltage drop in said cell per unit time is

3 employed as a factor for detecting termination of discharge of
4 said cell.

1 8. The power source circuit for a cell according to Claim 6,
2 wherein said power storing section comprises an electric double
3 layer capacitor.

1 9. A cell pack comprising a cell, a power source circuit for
2 said cell for controlling transfer of electric energy from said
3 cell to loads, and a case for housing the power source circuit
4 and the cell therein,

5 wherein a device employing said power source circuit is
6 operated in a manner that, when a discharge voltage of said cell
7 becomes lower than an operation lower limit voltage of said device
8 to be operated, a voltage output from said power source circuit
9 for said cell is made higher than said operation lower limit
10 voltage of said device by using a voltage increasing unit.

1 10. The cell pack according to Claim 9, wherein said cell is
2 a primary cell or a secondary cell.

1 11. A cell pack comprising a cell, a power source circuit for
2 said cell for controlling transfer of electric energy from said
3 cell to loads, and a case for housing the power source circuit
4 and the cell therein,

5 wherein said power source circuit comprises a cell voltage
6 detecting circuit to detect a voltage of said cell, a discharge
7 controlling circuit, an output voltage detecting circuit, a

8 step-up DC-DC converter, a switching circuit to switch a positive
9 electrode of said cell to either of an output terminal of said
10 power source circuit or an inputting section of said step-up DC-DC
11 converter, and a power storing section mounted in an outputting
12 section of said power source circuit, wherein said device
13 employing said power source cell is operated in a manner that,
14 when a discharge voltage of said cell becomes lower than an
15 operation lower limit voltage of said device to be operated, a
16 voltage output from said power source circuit for said cell is
17 made higher than said operation lower limit voltage of said device
18 by using said step-up DC-DC converter.

1 12. The cell pack according to Claim 11, wherein said cell is
2 a primary cell or a secondary cell.

1 13. A cell pack comprising a cell, a power source circuit for
2 said cell for controlling transfer of electric energy from said
3 cell to loads, and a case for housing the power source circuit
4 and the cell therein,

5 wherein said power source circuit comprises a cell voltage
6 detecting circuit to detect a voltage of said cell, a control
7 circuit, an output voltage detecting circuit, a step-up DC-DC
8 converter, an inductor, two or more switching circuits, a power
9 storing section mounted in said outputting section, wherein said
10 device employing said power source cell is operated in a manner
11 that, when a discharge voltage of said cell becomes lower than
12 an operation lower limit voltage of said device to be operated,
13 a voltage output from said power source circuit for said cell is
14 made higher than said operation lower limit voltage of said device

15 by using said step-up DC-DC converter.

1 14. The cell pack according to Claim 13, wherein said cell is
2 a primary cell or a secondary cell.